

CALIFORNIA COASTAL COMMISSION

45 FREMONT, SUITE 2000
SAN FRANCISCO, CA 94105-2219
VOICE AND TDD (415) 904-5200
FAX (415) 904-5400



W12a

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STAFF REPORT AND RECOMMENDATION ON CONSISTENCY DETERMINATION

Federal Agency: U.S. Environmental Protection Agency, Region 9

**Consistency
Determination No.:** CD-109-03

Location: Southern California federal waters.

Project Description: Issue general National Pollutant Discharge Elimination System ("NPDES") permit CAG280000 for discharges from 22 offshore oil and gas exploration, development and production facilities located in federal waters off the coast of southern California. Discharges include: drilling muds and cuttings; produced water; well treatment, completion and workover fluids; deck drainage; sanitary wastes and domestic wastes; non-contact cooling water; and fire control test water.

**Substantive File
Documents:** Appendix A

Synopsis

In December 2000, the Environmental Protection Agency (“EPA”) submitted to the Coastal Commission a consistency certification for a revised general National Pollutant Discharge Elimination System (“NPDES”) permit CAG280000 for discharges from 22 oil and gas platforms located in federal waters off the coast of Southern California. The EPA originally issued the general permit in 1982, which was reissued in 1983. Of the 22 platforms, 14 operate under water quality standards set by the 1982 general permit and eight operate under individual NPDES permits that the EPA issued between 1978 and 1993. All individual permits and the general permit covering the 22 platforms have expired.¹

At the January 2001, Coastal Commission hearing on the proposed new general permit, the EPA made commitments to revise the permit in response to concerns raised by the Commission. One of the modifications agreed to by the EPA was: For produced water discharges, inclusion in the permit of effluent standards based on the more stringent of EPA water quality criteria or California Ocean Plan standards. With the changes, the Commission concurred that the general permit was consistent with California’s Coastal Management Program (“CCMP”).

Soon after the Commission hearing, however, the Western States Petroleum Association (“WSPA”) objected to the imposition of Ocean Plan criteria applying at the point of compliance (*i.e.*, the edge of the 100-meter mixing zone) on the grounds that: (a) the Ocean Plan is not an enforceable policy of the CCMP, and (b) even if it is an enforceable policy of the CCMP, the Ocean Plan water quality criteria do not apply outside State waters, and should only be considered if a discharge outside State waters (*e.g.*, discharges into federal waters) cause a violation of the Ocean Plan criteria within State waters.

Because of WSPA’s opposition to the new Commission-approved general permit, the EPA has refused to issue it. Instead, in December 2003, the EPA resubmitted for consistency review proposed general permit CAG280000 with one key revision: Consistent with the position of WSPA, the resubmitted version of general permit CAG280000 applies Ocean Plan requirements not at each platform’s point of compliance, but rather at the seaward boundary of the territorial seas of the State of California. The criteria that would apply to a given discharge would be the more stringent of EPA criteria applied at the edge of the 100-meter mixing zone (100 meters from the discharge pipe) or Ocean Plan objectives applied at the boundary of California’s territorial seas. This revised resubmitted general permit is evaluated herein.

For the reasons discussed in detail in Section 10.1 of this staff report, the Commission staff strongly recommends that the Commission **object** to the EPA’s consistency determination CD-109-03. The Commission staff believes the resubmitted version of the new general permit is not consistent with the enforceable policies of the CCMP due to the EPA’s refusal to require each

¹ The EPA has determined that each of these expired general and individual permits qualify for automatic extension without alteration under the provision of 40 CFR §§122.6.

discharger to meet Ocean Plan requirements at the location of each platform's discharge (*i.e.*, at the edge of the 100-meter mixing zone).

If the EPA required each discharger to satisfy the Ocean Plan's water quality objectives and numeric effluent limitations at each platform's point of compliance, the Commission staff believes the Commission could find the proposed activities consistent with the enforceable policies of the CCMP.

1.0 PROJECT DESCRIPTION

The United States Environmental Protection Agency, Region 9 (“EPA”) proposes to issue a general National Pollutant Discharge Elimination System (“NPDES”) permit for oil and gas waste discharges from 22 Outer Continental Shelf (“OCS”) oil and gas platforms located in federal waters off the coast of Southern California (from an area west of Point Arguello to an area southeast of Santa Barbara).² In its regulations³ the EPA acknowledges that this action is presumptively subject to the consistency reviews requirements of section 307(c) of the Coastal Zone Management Act (CZMA) (16 USC § 1456(c)). Most platforms are located within the Santa Barbara Channel.⁴ The term of the proposed general permit is five years.

The proposed general permit would apply to the existing 22 development and production platforms, and new exploratory drilling operations located in and discharging to 83 specified lease blocks in federal waters on the Pacific OCS. New source production platforms would not be covered by the proposed permit and would require individual NPDES permits. Also, the EPA may require any discharger authorized by the general permit to apply for and/or obtain an individual NPDES permit if the terms of the general permit are determined to be inappropriate for a particular facility.

Discharges Authorized by Permit. The proposed general permit would authorize the following discharges (subject to the terms and conditions of the permit) in all areas of coverage: drilling fluids and drill cuttings; produced water; well treatment, completion and workover fluids; deck drainage; domestic and sanitary waste; blowout preventer fluid; desalination unit discharge; fire control system test water; non-contact cooling water; ballast and storage displacement water; bilge water; boiler blowdown; test fluids; diatomaceous earth filter media; bulk transfer material overflow; uncontaminated freshwater; water flooding discharges; laboratory wastes; excess cement slurry; hydrotest water; and hydrogen sulfide gas processing waste water.

Effluent Limitations. The proposed general permit includes effluent limitations based on (a) Best Conventional Pollutant Control Technology (“BCT”) for the control of conventional pollutants; (b) Best Available Treatment Economically Achievable (“BAT”) for the control of toxic and non-conventional pollutants, and; (c) additional effluent limitations based on section 403(c) (ocean discharge requirements) of the Clean Water Act (CWA; 33 USC § 1343(c)). The EPA promulgated BAT and BCT effluent limitation guidelines on March 4, 1993.⁵ These

² 40 CFR §122.28(c) “The Regional Administrator shall, except as provided below, issue general permits covering discharges from offshore oil and gas exploration and production facilities within the Region’s jurisdiction...”

³ 40 CFR § 122.49(d).

⁴ Existing platforms that are to be covered by the proposed general NPDES permit are: Platforms A, B, C, Edith, Ellen/Elly, Eureka, Gail, Gilda, Gina, Grace, Habitat, Harmony, Harvest, Henry, Heritage, Hermosa, Hillhouse, Hidalgo, Hogan, Hondo, Houchin, and Irene.

⁵ 40 CFR Part 435, Subpart A; *Effluent Limitations Guidelines for the Oil and Gas Extraction Point Source Category, Offshore Subcategory* [58 Federal Register 12454, March 4, 1993].

BAT/BCT effluent limitations have been included in the proposed permit, along with certain additional effluent limitations based on section 403(c) of the Clean Water Act. In addition, discharge-monitoring requirements have been included to ensure compliance with the effluent limitations.

The EPA currently lacks sufficient information to establish appropriate final effluent limitations for certain pollutants (primarily heavy metals and toxic organics) in produced water discharges. For these pollutants, the proposed permit would require each discharger to monitor these pollutants so that the EPA may evaluate whether the discharges have a reasonable potential to cause or contribute to exceedances of marine water quality criteria.⁶ (See Section 10.1 of this report for more detail.) Based on the results of the monitoring (which would be available approximately one year into the term of the permit), the EPA may, at its discretion, and based upon the monitoring results, reopen the permit to include additional effluent limitations.

In view of the variety of pollutants in produced water, the proposed permit also requires chronic whole effluent toxicity (“WET”) monitoring to measure the aggregate toxic effects of the pollutants. If toxicity is detected, accelerated testing would be required by the permit, and if the toxicity persists, a Toxicity Reduction Evaluation (“TRE”) would be required along with a Toxicity Identification Evaluation (“TIE”) to identify the specific chemical(s) causing the toxicity.

The proposed general permit offers substantial and comprehensive improvements over present discharge requirements for the 22 platforms because it incorporates the more stringent 1993 effluent discharge standards. Most notably, these 1993 guidelines⁷ reduce allowable discharges of oil and grease⁸ to 42 mg/l daily maximum and 29 mg/l monthly average. Furthermore, the technology used to reduce oil and grease to these new levels captures and reduces discharges of other pollutants as well. The proposed NPDES permit would also, for the first time, place a volumetric limit on the discharge of drilling muds and cuttings to the marine environment. Previously, only the toxic components of the muds were subject to discharge requirements.

The EPA’s consistency determination and proposed general NPDES permit are attached as Exhibits 1 and 2.

Self-Monitoring and Agency Compliance Monitoring. One of the most challenging issues in developing the new NPDES permit has been the resolution of how to monitor most effectively compliance with discharge standards. Section 308(a)(4)(A) of the Clean Water Act requires a discharger to conduct monitoring to determine compliance with effluent limitations and other

⁶ 40 CFR 122.44 (d)(1)

⁷ 40 CFR Part 435, Subpart A; *Effluent Limitations Guidelines for the Oil and Gas Extraction Point Source Category, Offshore Subcategory* [58 *Federal Register* 12454, March 4, 1993].

⁸ “Oil and grease” is both a conventional pollutant subject to “best conventional pollution control technology” (“BCT”) and an indicator of toxic pollutants, subject to “best available pollution control technology economically achievable” (“BAT”).

permit conditions. Accordingly, the general NPDES permit requires dischargers to do the following:

- Quarterly chronic toxicity testing with red abalone;
- Annual toxicity screening adjusted for seasonal variations with the following representative species to collect data for the next permit cycle: Giant kelp (plant), Topsmelt (vertebrate), and red abalone (invertebrate);
- Toxicity testing accelerated to one test every three weeks for eighteen weeks should regular toxicity testing detect triggering levels of toxicity;
- Daily monitoring of effluent;
- Notification of non-compliance within 24 hours; and
- Rectification or submission of rectification plan for non-compliance within five days.

All of these data sets will be reported to the EPA for assessment, and as such will be available to the public for oversight. The reports will also be provided to the Coastal Commission in order to track compliance monitoring.

The EPA asserts that the legal basis for the NPDES compliance program strictly allows for a combination of self-monitoring, spot checks by agency personnel, and the levying of fines in cases of violations. Based upon its review of operators' past performance, the EPA has maintained that operators are adequately sampling and reporting data, and that no additional oversight monitoring is necessary. However, many parties, including the Coastal Commission and the County of Santa Barbara have expressed concern about the EPA's reliance upon the veracity of self-collected, self-tested, and self-reported data. This concern is substantiated by a 1980s whistleblower incident at Platform Grace in which reported data was falsified, and an \$8 million dollar fine was levied.

Partly in response to this incident, and to allay concerns about the need for additional compliance monitoring, the EPA and the Minerals Management Service ("MMS") entered into a Memorandum of Agreement ("MOA") in November 1989 (Exhibit 3). This MOA was designed to improve coordination in NPDES permit compliance monitoring. The MOA provides for the EPA and the MMS to develop annual compliance monitoring work-plans containing specific inspection and sampling protocol for the year.

In addition to the annual compliance monitoring work-plans, the Coastal Commission brokered compliance monitoring "side" agreements as part of four individual NPDES permit proceedings. In these side agreements, the MMS and the dischargers agreed to quarterly monitoring of discharges at permitted platforms. The EPA was not a party to these side agreements, and provided neither funding, nor manpower to implement the agreement provisions. These agreements consisted of (a) specification that MMS inspectors would conduct a minimum of four annual random (unannounced) sampling inspections in addition to two joint EPA-MMS annual sampling inspections, (b) letters from the operators stating their willingness to comply with the modified inspection programs, and, in some cases, (c) commitments from the operators to pay for laboratory analysis of the samples.

Although the work-plans developed and executed by the EPA and the MMS under the 1989 MOU were successfully executed, monitoring records indicate that the individual side agreements were less successful. Specifically, the anticipated levels of compliance monitoring did not, in fact, take place in part due to MMS staffing limitations. These side agreements would be superceded upon the issuance of a new general NPDES permit, and both of these shortcomings are addressed under the terms of the currently proposed monitoring program.

The original draft general NPDES permit issued in July 2000 by the EPA for public comment provided for self-monitoring (as described above) and occasional unannounced spot checks by EPA, or MMS personnel.

The Commission staff communicated to the EPA its concern that the draft proposed general NPDES permit did not contain produced water-monitoring requirements adequate to find the permit consistent with California's Coastal Management Program. The Commission staff requested that, to reduce the potential for NPDES violations and adverse coastal zone impacts, the EPA provide additional discharge monitoring commitments either as permit requirements or through modified inter-agency agreements. These include:

- The EPA and MMS will continue to implement the November 1989 Memorandum of Understanding ("MOA") that provides for the EPA and the MMS to develop annual compliance monitoring work plans containing inspections and sampling protocol for each year of the term of the permit. Exhibit 4 is the 2004 work plan.
- Every year, each platform discharging produced water (currently 12 of the 22) will be sampled twice for whole effluent toxicity ("WET") analysis. Sampling inspections will be unannounced and random (*i.e.*, the timing and location of each platform inspection will not be named in the annual work plan). The MMS will take a "grab" sample during a routine MMS inspection. The EPA will conduct the WET testing at its labs using red abalone. WET testing is particularly useful since it measures the combined effect of all the pollutants in a discharge.
- In addition, each year, MMS will take a "grab" sample once at nine of the platforms to chemically analyze the discharge for pollutants for which specific limits are set in the permit (*e.g.*, oil and grease, mercury, cyanide, ammonia, total phenolics). Sampling inspections will be unannounced and random. The EPA and the MMS will conduct the sampling. If funding constraints preclude the EPA from taking samples during the year, the Central Coast Regional Water Quality Control Board will substitute for the EPA to conduct the sampling. (See Exhibit 5, attached letter from the Regional Water Quality Control Board to Terry Oda, EPA).
- In the event the EPA is unable to fund the chemical tests during the year, the dischargers will fund the lab costs. In this event, the MMS will select an independent lab to analyze the sample. The lab will work directly for the EPA, not the discharger. (See Exhibit 6, attached letter from the Western States Petroleum Association -- WSPA -- to Terry Oda, EPA).
- The MMS will conduct visual and records inspections at least once per year at each platform.

Monitoring results will be reported to the Coastal Commission on a quarterly basis.

2.0 BACKGROUND

Discharges into navigable waters of the United States are regulated under the federal Clean Water Act. Clean Water Act Section 402 and 301(a) authorize the EPA to administer the NPDES permit program prohibiting discharges of pollutants to surface waters except in compliance with the terms and conditions of an NPDES permit.

There are currently 22 production platforms located on the Southern California OCS that are presently covered by either an individual or general permit. The EPA originally issued the general permit in 1982, which was reissued in 1983. Of the 22 platforms, 14 operate under standards set by the 1982 general permit and eight operate under individual NPDES permits that EPA issued between 1978 and 1993. All individual and general permits covering the 22 production platforms are expired. The EPA has determined that each of these expired general and individual permits qualify for automatic extension without alteration under the provisions of 40 CFR § 122.6⁹:

Of the 22 platforms, all produce drilling fluids and cuttings, but only 12 discharge produced water.¹⁰ The remaining ten platforms either contribute to the discharge of the 12 via combined discharge, or re-inject produced waters onshore or offshore.

For nearly two decades, the Commission has collaborated with the EPA, the MMS, the County of Santa Barbara, the State Water Resources Control Board (“SWRCB”), and others to establish discharge standards at oil and gas production platforms in State and federal waters. In some instances, these efforts have occurred in the context of general NPDES permits. More recently, in federal waters, these efforts have resulted in individual permits issued to four platforms.

The origin of the current effort dates back to EPA efforts in the mid-1980s to issue a general NPDES permit for platforms in federal waters. In February 1982, the EPA issued a general NPDES permit set to expire in January 1984. In January 1984, the Coastal Commission concurred in a consistency certification to extend the 1982 general permit’s expiration date for an additional six months, through June 1984 (CC-26-83).

When the EPA sought to issue new general NPDES permits in February, 1986, the Coastal Commission objected to consistency certifications for NPDES permits Nos. CAG280622 (development/production operations) and CAG280605 (exploratory operations) (CC-38-85/CC-39-85). The Commission based its objection on findings that the permits:

- Provided insufficient protection of site-specific, sensitive marine resources;

⁹ In a September 16, 2003, letter, the Commission raised questions regarding the lawfulness of this automatic extension of the 1982 general NPDES permit. In addition, the automatic extension of the 1982 general NPDES permit is, among other things, the subject of a legal challenge currently pending in the U.S. District Court for the Northern District of California (*Our Children’s Earth Foundation, et al. v. USEPA*).

¹⁰ Platforms A, B, Edith, Gilda, Gina, Habitat, Harmony, Harvest, Hermosa, Hidalgo, Hillhouse, Hogan.

- Did not comply with all state water quality standards or fully explain reasons for excluding feasible standards;
- Provided inadequate monitoring procedures to control discharges and ineffective testing methods to detect levels of discharge toxicity;
- Provided inadequate enforcement measures to ensure permit compliance; and
- Did not mitigate potential adverse impacts to coastal zone resources to the maximum extent feasible.

The 1986 general permits were thus never issued. Consequently, the existing individual permits and the 1982 general permit were never superceded,¹¹ and new sources were handled via new individual permits.

Since 1986, the Commission has concurred with consistency certifications for individual NPDES permits for the following five platforms:

- Exxon Platforms Harmony and Heritage (CC-68-92, 8/12/92, for “Phase I” discharges; and CC-85-92, 4/14/93, for “Phase II” discharges);¹²
- Chevron Platform Gail (CC-68-93, 2/17/94);
- Chevron Platform Grace (CC-65-94, 11/15/94); and
- Torch Platform Irene (CC-45-94, 11/15/94).

These individual NPDES permits include the new, more stringent discharge standards contained in the EPA’s 1993 *Effluent Limitations Guidelines*.

The Commission has not concurred in the EPA’s 1993 renewal of the individual permit for Platforms Ellen and Elly¹³ because neither the operator nor the EPA to date has submitted to the Commission a consistency certification. Hence, the NPDES permit renewal is not effective. The operator has not been discharging since April 1991, however, choosing instead to re-inject produced water.

In December 2000, the EPA submitted to the Coastal Commission a consistency certification for a revised general NPDES permit (CAG280000) that would cover all 22-platform discharges and replace the 1982 general permit and the individual NPDES permits described above. At the January 2001, Coastal Commission hearing, the EPA made commitments to revise the proposed new general NPDES permit CAG280000 in response to concerns raised by the Coastal Commission. The modifications were:

¹¹ Although these existing permits have expired, the EPA has determined that each such expired permit qualifies for automatic extension pursuant to 40 CFR § 122.6 and 5 USC § 558(c). See footnote 9, *supra*.

¹² Discharges from Platforms Harmony and Heritage are permitted under two individual NPDES permits. The Coastal Commission conducted its consistency review, however, for both platforms together, but considered the discharges from both platforms in two phases.

¹³ Discharges from Platforms Ellen (drilling platform) and Elly (processing platform), two separate platforms connected by a bridge, are authorized by one individual NPDES permit.

- For produced water discharges, inclusion in the permit of effluent standards based on the more stringent of EPA water quality criteria or California Ocean Plan objectives;
- Revision of the scope and timing of the study requirements in the permit for alternative disposal for drill fluids and cuttings and produced water discharges; and
- Revision of the EPA's fact sheet to include a description of a commitment by EPA to conduct third party monitoring of platform discharge operations.

With these changes, the Coastal Commission concurred that the general permit was consistent with California's Coastal Management Program. It was the Commission's hope and expectation that the EPA would issue the new permit immediately.

Soon after the Commission hearing, however, the Western States Petroleum Association ("WSPA") objected to the imposition of California Ocean Plan effluent criteria applying at the point of compliance – 100 meters from the platform's discharge pipe – as agreed to by the EPA at the January 2001 hearing. WSPA objected to the imposition of Ocean Plan criteria on the grounds that (a) the Ocean Plan is not an enforceable policy of California's Coastal Management Program, and (b) even if it is an enforceable policy of California's Coastal Management Program, the Ocean Plan water quality criteria do not apply outside State waters, and should only be considered if a discharge outside State waters (e.g., discharges into federal waters) cause a violation of the Ocean Plan criteria within State waters.¹⁴ (Section 10.1 of this report addresses WSPA's legal arguments.)

Because of WSPA's opposition to new general permit CAG280000, the EPA has refused to issue it. Instead, in December 2003, the EPA re-submitted for consistency review proposed general permit CAG280000 with one key revision: Consistent with the position of WSPA, the resubmitted version of general permit CAG280000 applies California Ocean Plan requirements not at each platform's point of compliance (100 meters from each platform's waste discharge pipe), but rather at the seaward boundary of the territorial seas of the State of California. The criteria which would apply to a given discharge would be the more stringent of EPA criteria applied at the edge of the 100 meter mixing zone or Ocean Plan objectives applied at the boundary of California's territorial seas. This proposed general permit is evaluated herein.

The Commission's past federal consistency NPDES actions are summarized in Exhibit 7.

3.0 FEDERAL AGENCY'S CONSISTENCY DETERMINATION

The EPA has determined the project activities to be consistent with California's Coastal Management Program ("CCMP") (Exhibit 1).

¹⁴ See letter dated September 14, 2001, from Jocelyn Niebur Thompson, Esq., on behalf of WSPA, to Marcela von Vacano, Esq., an attorney in the Office of Regional Counsel for EPA's Region IX, p. 2 ("By the terms of the COP itself, the water quality criteria do not apply outside state waters, and should only be considered to the extent that a discharge outside state waters...may cause a violation of the criteria within state waters.").

4.0 STAFF RECOMMENDATION

Motion:

I move that the Commission concur with consistency determination CD-109-03 that the activities described therein are fully consistent, and thus are consistent to the maximum extent practicable, with the enforceable policies of the California Coastal Management Program (“CCMP”).

Staff recommends a **NO** vote on the motion. Failure of this motion will result in an objection to the determination and adoption of the following resolution and findings. An affirmative vote of a majority of the Commissioners present is required to pass the motion.

Resolution:

The Commission hereby objects to the consistency determination by the Environmental Protection Agency on the ground that the activities described therein are not consistent to the maximum extent practicable with the enforceable policies of the CCMP.

5.0 PRACTICABILITY

The federal consistency regulations implementing the Coastal Zone Management Act (“CZMA”) include the following provision:

Section 930.32 Consistent to the maximum extent practicable

(a)(1) The term “consistent to the maximum extent practicable” means fully consistent with the enforceable policies of management programs unless full consistency is prohibited by existing law applicable to the Federal agency.

Since the EPA has raised no issue of practicability, as so defined, the standard before the Commission is full consistency with the policies of the CCMP.

6.0 APPLICABLE LEGAL AUTHORITIES

Section 307 of the CZMA provides in part:

(c)(1)(A) Each federal agency activity within or outside the coastal zone that affects any land or water use or natural resource of the coastal zone shall be carried out in a manner which is consistent to the maximum extent practicable with the enforceable policies of approved State management programs.

The Coastal Commission first exercised its federal consistency review authority under the CZMA on August 31, 1978. Chapter 11 of the CCMP lists NPDES permits issued by the EPA as an activity requiring a consistency concurrence from the Commission [see also *14 CCR § 13660.1(a)*].

On December 10, 2003, the EPA submitted to the Coastal Commission a consistency determination for the proposed general permit. The proposed general NPDES permit will become effective if the Coastal Commission concurs with the EPA's consistency determination. The concurrence, if granted, would be a concurrence in a "general permit program" as that term is defined and used in Section 930.31(d) of the CZMA regulations [15 *CFR* § 930.31(d)].

To concur with the EPA's consistency determination, the Commission must find the proposed activities consistent with the enforceable policies of the CCMP. Those policies consist of the following:

- The Chapter 3 policies (sections 30200 – 30265.5) of the California Coastal Act (*California Public Resources Code* ("PRC"), *Division 20*), incorporated into and made a part of the CCMP by CCA section 30008;
- The enforceable policies of the State Water Resources Control Board's (SWRCB) "California Ocean Plan" (also known as the "Water Quality Control Plan for Ocean Waters of California" (2001) or "Ocean Plan"), adopted by the SWRCB pursuant to section 13170.2 of the Porter-Cologne Water Quality Control Act (California Water Code) and to section 303(c)(1) of the CWA (33 USC § 1313(c)(1)) incorporated into and made a part of the CCMP by section 307(f) of the CZMA (16 USC § 1456(f)); and
- Section 13142.5 of the California Water Code, which provides additional water quality policies relating to the coastal marine environment,¹⁵ incorporated into the CCMP by Coastal Act Section 30412(a)).

7.0 DESCRIPTION OF ALTERNATIVE MEASURES

If the State agency objects to a Federal agency's consistency determination, it is to provide to the Federal agency its reasons for the objection. The State agency is to describe: (1) How the proposed activity will be consistent with the specific enforceable policies of the management program, and (2) The specific enforceable policies (including citations). In addition, the State agency is to describe alternative measures (if they exist), which, if adopted by the Federal agency, would allow the activity to proceed in a manner consistent to the maximum extent practicable with the enforceable policies of the management program. (15 *CFR* 930.43(a)).

As discussed below in Section 10.0 of this report, the Commission has found that the consistency determination for the proposed general NPDES permit is inconsistent with the CCMP due to the EPA's failure to require each discharger to meet California Ocean Plan requirements at the location of each platform's discharge (i.e., 100-meters from the discharge pipe). If the EPA requires each discharger to satisfy the water quality objectives and numeric effluent limitations of the California Ocean Plan at each platform's point of compliance, the Commission could find the proposed activity consistent with the enforceable policies of the CCMP.

¹⁵ Specifically, Section 13142.5 addresses, among other things, treatment of wastewater discharges to protect and restore beneficial uses of receiving waters, and conducting baseline studies of the marine system.

8.0 FEDERAL AGENCY RESPONSE TO COMMISSION OBJECTION

Section C(a)(i) of Chapter 11 of the CCMP requires federal agencies to inform the Commission of their response to a Commission objection. This section provides:

If the Coastal Commission finds that the Federal activity or development project ... is not consistent with the management program, and the federal agency disagrees and decides to go forward with the action, it will be expected to (a) advise the Coastal Commission in writing that the action is consistent, to the maximum extent practicable, with the coastal management program, and (b) set forth in detail the reasons for its decision. In the event the Coastal Commission seriously disagrees with the Federal agency's consistency determination, it may request that the Secretary of Commerce seek to mediate the serious disagreement as provided by Section 307(h) of the CZMA, or it may seek judicial review of the dispute.

The CZMA regulations reflect a similar obligation; 15 CFR § 930.43 provides:

State agency objection.

...

(d) In the event of an objection, ... the Federal agency shall not proceed with the activity over a State agency's objection unless: ... (2) the Federal agency has concluded that its proposed action is fully consistent with the enforceable policies of the management program, though the State agency objects.

(e) If a Federal agency decides to proceed with a Federal agency activity that is objected to by a State agency, or to follow an alternative suggested by the State agency, the Federal agency shall notify the State agency of its decision to proceed before the project commences.

9.0 IMPLICATIONS OF A COMMISSION OBJECTION TO EPA'S CONSISTENCY DETERMINATION

If the EPA elects to issue the proposed general NPDES permit notwithstanding an objection by the Commission, such issuance will be subject to the provisions of Section 930.31(d) of the CZMA regulations. Accordingly, in the EPA's "Fact Sheet" accompanying the proposed general permit, the EPA states that if the Commission objects to the general permit, the EPA will notify potential users of the general permit that the general permit is not authorized, "unless the State agency [Coastal Commission] concurs that the activity is consistent with the enforceable policies of its management program." (15 CFR 930.31(d)). Thus, the general permit will not be effective and cannot be used by a discharger until the potential user of the general permit provides an individual consistency certification to the Commission, and the Commission concurs in the consistency certification.

In the event that the Commission objects to the consistency determination for the new general permit, and EPA nevertheless elects to issue the permit, the EPA will publish a notice in the

Federal Register announcing the new general permit's issuance. The terms of the new general permit state that a Commission objection to the permit will cause the *existing* general permit or individual permit for the platforms shall expire within three months of the date of the Federal Register notice unless the permittee has submitted an individual consistency certification to the Commission. If the Commission concurs in an individual consistency certification, the new general permit will become effective for that permittee on the first day of the month that begins at least 45 days after the date of the Commission's concurrence with the consistency certification. If the Commission objects to an individual consistency certification, the existing general permit or individual permit for the platforms shall expire within 30 days of the Commission's objection unless the permittee submits a timely appeal to the Secretary of Commerce in accordance with 15 CFR 930.125.¹⁶

10.0 FINDINGS AND DECLARATIONS

The Commission finds and declares as follows:

10.1 Marine Resources and Water Quality

Coastal Act § 30230 states:

Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.

Coastal Act § 30231 states in part:

The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges....

Coastal Act § 30250 requires in part that new industrial development:

be located within, contiguous with, or in close proximity to, existing developed areas able to accommodate it or, where such areas are not able to accommodate it... where it will

¹⁶ If the Secretary of Commerce overrides the Commission's objection, the new general permit shall become effective of the first day of the month that begins at least 45 days after the date of the Secretary's decision. If the Secretary upholds the Commission objection, the EPA would either re-propose a new general permit or require the companies to seek individual NPDES permits, which would require the submittal of a consistency certification to the Commission. While the EPA or individual companies seek federal consistency concurrence by the Commission, it is the EPA's position that the existing general and individual NPDES permits remain in effect.

not have significant adverse effects, either individually or cumulatively, on coastal resources.

Coastal Act § 30412(a) provides in part for "... the provisions set forth in Section 13142.5 of the [California] Water Code..." Section 13142.5 of the California Water Code states in part:

In addition to any other policies established pursuant to this division, the policies of the state with respect to water quality as it relates to the coastal marine environment are that:

- (a) Wastewater discharges shall be treated to protect present and future beneficial uses, and, where, feasible, to restore past beneficial uses of the receiving waters. Highest priority shall be given to improving or eliminating discharges that adversely affect any of the following:*
- (1) Wetlands, estuaries, and other biologically sensitive areas.*
 - (2) Areas important for water contact sports.*
 - (3) Areas that produce shellfish for human consumption.*
 - (4) Ocean areas subject to massive waste discharge.*

Ocean chemistry and mixing process, marine life conditions, other present or proposed outfalls in the vicinity, and relevant aspects of areawide waste treatment management plans and programs, but not of convenience to the discharger, shall for the purposes of this section, be considered in determining the effects of such discharges....

Additionally, Section 307(f) of the CZMA directs that federal, State and local provisions established pursuant to the Clean Water Act shall be incorporated into State coastal management programs and shall be the water pollution control requirements applicable to such program. The general water pollution control policies and objectives of the State are contained in the requirements of the California Ocean Plan.

The water quality objectives of the Ocean Plan (Chapter 2) include:

E. Biological Characteristics

- 1. Marine communities, including veterbrate, inveterbrate, and plant species, shall not be degraded.*
- 2. The natural taste, odor, and color of fish, shellfish, or other marine resources used for human consumption shall not be altered.*
- 3. The concentrations of organic materials in fish, shellfish or other marine resources used for human consumption shall not bioaccumulate to levels that are harmful to human health.*

The Ocean Plan's general requirements for management of waste discharge to the ocean are:

- a. *Waste management systems that discharge to the ocean must be designed and operated in a manner that will maintain the indigenous marine life and a healthy and diverse marine community.*
 - b. *Waste discharged to the ocean must be essentially free of:*
 1. *Material that is floatable or will become floatable upon discharge.*
 2. *Settleable material or substances that may form sediments which will degrade benthic communities or other aquatic life.*
 3. *Substances which will accumulate to toxic levels in marine waters, sediments or biota.*
 4. *Substances that significantly decrease the natural light to benthic communities and other marine life.*
 5. *Materials that result in aesthetically undesirable discoloration of the ocean surface.*
 - c. *Waste effluents shall be discharged in a manner which provides sufficient initial dilution to minimize the concentrations of substances not removed in the treatment.*
 - d. *Location of waste discharges must be determined after a detailed assessment of the oceanographic characteristics and current patterns to assure that....*
3. *Maximum protection is provided to the marine environment.*

To protect marine aquatic life, the Ocean Plan also contains numerical effluent limitations for oil and grease, and water quality criteria for other priority pollutants such as arsenic, cadmium, benzene, ethylbenzene, naphthalene, toluene, and zinc. Table 1 below lists the current standards and compares the Clean Water Act's federal criteria with those of California's Ocean Plan.

10.1.1 Introduction

The discharge of oil and gas wastes into marine waters has the potential to cause significant adverse impacts to marine resources and water quality. Under the new proposed permit, platform operators would continue to discharge muds and cuttings, produced water and other wastes. Clearly, the effluent discharge standards and terms of the proposed permit are an improvement as compared to the existing standards under which the platform operators currently discharge. The proposed permit's more stringent effluent limitations offer the prospect for improved water quality and greater protection of marine resources.

Section 403 of the Clean Water Act (33 USC § 1343) requires that an NPDES permit for a discharge into marine waters located seaward of the inner boundary of the territorial seas be issued in accordance with guidelines for determining the potential degradation of the marine environment. Section 403, as implemented by these guidelines, referred to as the "Ocean Discharge Criteria" (40 CFR Part 125, Subpart M (§§ 125.120-124)) are intended to "prevent unreasonable degradation of the marine environment and to authorize imposition of effluent

limitations, including a prohibition of discharge, if necessary, to endure this goal.” (49 *Federal Register* 659, October 3, 1980) Of the discharges typically accompanying offshore oil and gas operations, drilling fluids (“muds”) and cuttings, and produced water, are considered to have the greatest potential to degrade the marine environment. If the EPA determines that the discharge will cause unreasonable degradation, an NPDES permit will not be issued.

Specific effects of platform discharges can be immediate, chronic, direct, or indirect. Substantial disagreement exists among experts regarding the degree to which drill muds and cuttings, produced water, and other oil and gas waste discharges affect the marine environment. In 1983, a National Research Council panel concluded that the effects and environmental risks of individual drilling discharges to most communities in high-energy depositional environments, such as OCS waters, are quite limited in extent and are confined mainly to the benthic environment. Uncertainties still exist, however, concerning the effects on communities in low-energy depositional environments that experience large inputs of drilling discharges over long periods of time. The respective levels of significance of these discharges is the subject of some dispute.

The EPA prepared an Ocean Discharge Criteria Evaluation (“ODCE”) entitled *Ocean Discharge Criteria Evaluation South and Central California for NPDES Permit No. CAG280000* (dated September 29, 2000) that evaluates the discharges which would be authorized by the proposed general permit. After review of the ODCE, other available data, and studies in the administrative record for the permit, and comments received on the proposed permit, the EPA concluded that the proposed discharges would not cause unreasonable degradation of the marine environment. The ODCE concludes that the discharges are expected to affect water quality and marine organisms, but the effects will be short-term only, and localized, due to rapid dispersion of the discharges in receiving waters.

A more detailed examination of the effects of produced water and muds and cuttings discharges, and an analysis of those discharges’ conformity with the enforceable policies of the CCMP follows.

10.1.2 Produced Water

Produced water resulting from the separation of water from the oil and gas mixture extracted from wells often contains measurable amounts of hydrocarbons and other organic compounds, dissolved salts, and metals. During oil and gas production, produced water --when not re-injected-- is the most significant production discharge in terms of volume and potential environmental effects. According to the EPA Industrial Technology Division (EPA-ITD), the “most obvious pollutant of concern for produced waters is oil and grease.” (56 *Federal Register* 10682.) In addition to oil and grease, produced water contains other priority pollutants such as arsenic, cadmium, lead, benzene, ethylbenzene, naphthalene, toluene, and zinc. Concerns with produced water discharges include changes in marine species composition resulting from impacts to the water column (e.g., turbidity or toxicity from effluent concentrations that exceed regulatory criteria) and chronic toxicity.

Chronic toxicity may include sublethal effects such as reduced reproductive success, diminished appetite, and changes in mating, sheltering, or predation behavior (*e.g.*, many marine organisms ingest wastes, retain the constituents within body tissues, and eliminate the materials very slowly; thus wastes may accumulate until they reach toxic levels, even if the initial concentrations of the wastes are below acute toxic levels.) Halogenated hydrocarbons and heavy metals such as mercury and lead have the greatest potential to bioaccumulate in marine organisms.

Also, the Commission has previously raised some concern over discharges of deck drainage, which can include detergents, small quantities of oil, surfactants, and emulsifiers used to clean surfaces, tanks, and equipment. Other effluents (*e.g.*, sanitary and domestic wastes from Coast Guard approved Class I treatment units, fire control test water, desalination unit discharge, and noncontact cooling water) have been compared to common discharges emanating from large oceangoing vessels. (CC-38-85/CC-39-85, *February* 1986, - CC-56-86, *March* 1987.) The major difference is that platform discharges occur more or less continuously and at a fixed location.

Other research indicates that specific marine organisms are sensitive to minute concentrations of pollution. Cherr et al. (1993) detected abnormal development in embryos of purple sea urchin (*Strongylocentrotus purpuratus*) exposed to varying concentrations of produced water under controlled laboratory conditions; effects ranged from sensitivity at concentrations of 3% produced water, to delay in development at 3-5% produced water, to physical changes at 7% produced water. Preliminary results suggest that the abnormal effects may be related to the presence of sodium arsenite, a constituent of some types of produced water. (Cherr et al., 1993, pp. 28-30.)¹⁷

Findings from the Southern California Educational Initiative program have shown that produced water discharges from an oil processing facility in Carpinteria impact reproductive development and growth of mussels (Osenberg and Schmitt, 1991; Osenberg et al., 1992; Fan et al., 1992), early embryonic development in sea urchins (Baldwin et al., 1992; Krause et al., 1992), larval settlement and metamorphosis in abalone (Raimondi and Schmitt, 1992), and development in giant kelp (Cherr et al., 1991; Garman et al., 1991). Cherr et al. (1993) also demonstrated perturbations in the reproduction of the California mussel (*Mytilus californianus*) chronically exposed to a sample of produced water under controlled laboratory conditions.

The proposed permit includes effluent limitations more stringent than those in existing NPDES permits for platform dischargers. Immediately upon permit issuance, new BCT- and BAT-based effluent limitations for conventional, non-conventional, and toxic pollutants (*e.g.*, pH, biochemical oxygen demand ("BOD"), oil and grease, total suspended solids ("TSS"), fecal coliform in produced water, and diesel oil barite with low trace metal contaminant levels for

¹⁷ Produced water composition can be highly variable among formations, but in all cases appears to be very complex, consisting of non-polar and polar organic compounds, as well as inorganic cations and anions, and combinations of these diverse chemical categories (National Research Council, 1985). The authors note later that produced water composition may vary from batch to batch and that, since the results reported were derived from one batch only, a general conclusion of the impact of all produced waters cannot be drawn. (Cherr, et al., 1993, p. 112.)

drilling fluids and cuttings as described in Section II of the proposed permit) will be required of the permittees. In addition, more stringent water quality-based limitations are proposed for the produced water for compliance with the Ocean Discharge Criteria regulations. Table 1 shows a side-by-side comparison of the proposed water quality criteria with those in the existing General NPDES Permit CA0110516. However, prior to establishing these proposed criteria as formal limits for produced water in the permit, the EPA must first determine whether a discharge causes, has the reasonable potential to cause, or contributes to an instream excursion above these numeric criteria.

At this time, however, no platform has a sufficient amount of data to permit the analysis to establish reasonable potential for all the parameters of concern listed in Table 1. Much of the existing data is old and was collected with varying detection limits and quality control. To compile a complete data set for all parameters of interest with appropriate detection limits and quality control, the EPA is requiring the dischargers to obtain water quality data (one sample per month) during the first year of the term of the permit. During the reasonable potential data gathering and evaluation phase (the first year) of the proposed permit, the water quality criteria of the previous permits will remain in effect for compliance and enforcement purposes, except for certain parameters for Platforms Hogan and Gail, where alternate limits will be in effect. Most platforms fall under the requirements of existing General Permit CA0110516.

Although the proposed limits for the majority of the parameters are more stringent than the limits in existing NPDES permits for platform dischargers, the Commission, during its January 9, 2001, hearing on this matter, expressed concern that some of these new limits appeared to be less protective of the beneficial uses of the marine environment than those contained in the California Ocean Plan.¹⁸ In response to these concerns, the EPA agreed at the hearing to modify the then-proposed general permit to provide as discharge effluent standards for produced water either the State water quality criteria set forth in the Ocean Plan that is part of the CCMP or the national 304(a) criteria, whichever is more protective of applicable beneficial uses. With this change, among others, the Coastal Commission concurred that the general permit was consistent with the CCMP.

Comparison of Federal Criteria with California Ocean Plan Standards

The Commission's staff has determined that, for most parameters of concern (i.e., the pollutants found in produced water), the Ocean Plan standard appears to be more stringent than the EPA's standard.

For most parameters in Table 1, the Ocean Plan aquatic life water criteria are expressed in terms of a 6-month median whereas EPA's criteria are expressed in terms of a criterion continuous concentration, which is a four-day average. It is therefore not immediately clear which criteria

¹⁸ Since 1986, the Commission has concurred in consistency certifications for individual NPDES permits for Platforms Harmony, Heritage, Gail, Grace, and Irene (CC-68-92, CC-85-92, CC-68-93, CC-65-94 and CC-45-94). In all cases, the Commission found that the proposed discharge limits were consistent with Ocean Plan requirements.

are more stringent. The EPA has developed a statistical procedure for comparing the stringency of the two sets of criteria (See Exhibit 8, *Procedure for Comparing California Ocean Plan 6-Month Median and a 4-Day Average for NPDES Permit No. CAG280000*, August 16, 2001). Nevertheless, comparison of these criteria still cannot be performed at this time with certainty because that determination depends on first establishing coefficients of variation (CV) of the monitoring data. As stated above, at this time, the platforms have insufficient data for most parameters of concern. In addition, much of the existing data is quite old and was collected with varying detection limits and quality control. Consequently, EPA is requiring that the dischargers obtain water quality data for the identified pollutants during the first year. CVs for the data will be derived from a minimum of 12 samples collected during this phase.¹⁹ These CVs will then be used in the conversion procedure to determine the relative stringency of the Ocean Plan and EPA's water quality criteria. EPA will use the water quality data submitted, according to the procedures and guidance contained in its Technical Support Document for Water Quality-Based Toxics Control, to establish whether a discharge has the reasonable potential to cause or contribute to an excursion above the more stringent of the Ocean Plan or EPA criteria.

The permittees are to submit sampling results to the EPA no later than one year and three months after the date of permit issuance. The submittal is to include a determination of the minimum dilution limit required each discharge location to maintain no reasonable potential to exceed the water quality criteria for any constituent listed in Table 1. For parameters with two criteria (i.e., the federal criteria and Ocean Plan standard), the submittal shall be based on the more stringent of either: (a) the federal criterion applied at the edge of the 100 meter mixing zone (at the platform), or (b) the Ocean Plan objective applied at the seaward boundary of the territorial seas of the State of California. The EPA will take approximately one month to review the data, then re-open, and propose modifications to the permit to include the more stringent of EPA or Ocean Plan criteria, where a limit is needed based on the results of the reasonable potential analysis.

The EPA did not develop a conversion procedure for comparing stringency for benzene, ethylbenzene and toluene. The reason is that the criteria for these parameters are human health-based. The exposure duration for EPA's human health criteria is considered a lifetime, while the averaging period for the Ocean Plan human health criteria is 30 days, which would ordinarily result in a larger numerical value for a particular criterion due to its smaller averaging period. However, since the numerical values of the Ocean Plan criteria are smaller than the EPA criteria for these parameters, the Ocean Plan criteria are clearly more stringent, if compared at the same distance from the discharge point, as originally agreed to by the EPA.

The EPA's revised position, according to its December 2003, submittal is to apply the federal and Ocean Plan criteria at different distances from the discharge point (i.e., the edge of the 100-meter mixing zone and the seaward boundary of the territorial seas of the State of California for the federal and Ocean Plan criteria, respectively). Any comparison of the two sets of limitations therefore must take in account the amount of dilution that takes place between the two distinct

¹⁹ EPA's Technical Support Document for Water Quality-Based Toxics Control (EPA/505/2-90-001) requires 10 samples as a minimum to perform the Reasonable Potential analysis.

points of measurement. In the end, a conversion procedure will still likely be essential for determining the relative stringency regarding benzene, ethylbenzene and toluene.

As discussed above, before development of the water quality criteria at the end of the data gathering and evaluation phase, the proposed permit does require compliance with the existing water quality-based limitations in the existing permits. Where, upon analysis, no reasonable potential for exceedance is shown for a particular constituent, its water quality objective will be deleted. However, the dischargers must perform one additional sampling of the constituent and its results must be submitted to the EPA at least 180 days before the permit expires.

Notwithstanding the absence of real-life CVs, the Commission staff has arrived at a preliminary determination of the relative stringency of the two sets of produced water standards when applying both at the edge of the 100-meter mixing zone, as first agreed to by the EPA at the Commission's January 2001 hearing. Staff used the conversion procedure developed by the EPA (See Exhibit 4) to convert the Ocean Plan's 6-month medians to 4-day averages. A CV of 0.6 was assumed for this illustration. As shown in Table 1, the converted Ocean Plan objectives are more stringent than the federal criteria in all cases except cyanide.²⁰ The EPA standard for phenol is a human health-based lifetime average, while that from the Ocean Plan is based on the protection of aquatic life. No direct comparison can therefore be made at this time. The Ocean Plan contains no criteria for several of the contaminants listed in Table 1 (e.g., manganese, benzo (a) anthracene, and chrysene.... etc.). The federal criteria for those contaminants (mostly human health-based lifetime averages) are thus more stringent by default.

The water quality criteria for benzene, toluene, and ethylbenzene are designed for the protection of human health. The federal criteria have an averaging period of a lifetime, while those from the Ocean Plan are based on 30-day averages. As explained above, a 30-day average would typically result in a larger numerical value for a particular criterion due to its smaller averaging period. In other words, if the Ocean Plan's 30-day averages were to be converted into lifetime averages, their numerical values should decrease. However, since those 30-day averages are already smaller than the federal criteria's lifetime-averages for the three parameters, the Ocean Plan criteria are necessarily more stringent, *when applied at the same distance from the discharge point*. Even if the two sets of criteria were directly comparable at this time without any manipulations, in the case of benzene, a carcinogen, the EPA's criterion of 71 µg/L would entail an additional cancer risk level 12 times higher than what would result from the Ocean Plan's 5.9 µg/L. Again, the comparison is done assuming application of both criteria at the edge of the mixing zone.

²⁰ Coefficient of variation (CV) is a standard statistical measure of the relative variation of a distribution or set of data, defined as the standard deviation divided by the mean. Assuming a CV of 2 (i.e., a higher variation in the data distribution), for example, would increase the values of the converted Ocean Plan criteria, bringing them closer to those of the federal criteria. Nevertheless, these Ocean Plan objectives would remain more stringent than their federal counterparts, except for cyanide and copper. It would be unrealistic to assume an even higher CV for this illustration because that would indicate an exceptionally high variability in effluent quality, which would have the opposite effect and, in turn, require even lower targeted long-term averages in order to meet the relevant waste load allocations and permit limits.

It should be noted that the EPA has recommended in 2002, for human health protection, a criterion of 51 µg/L for benzene, based on a cancer risk level of 10^{-6} (i.e., 1 additional cancer in a population of 1,000,000) (*National Recommended Water Quality Criteria: 2002*, USEPA, November 2002)²¹. Accordingly, the proposed 71 µg/L for the permit would yield a cancer risk level of 1.4×10^{-6} , while the Ocean Plan's 5.9 µg/L would result in a risk of 1.2×10^{-7} . In general, however, both of these figures still fall within the State's acceptable cancer risk range of 10^{-4} to 10^{-6} .

Toluene and ethylbenzene are considered noncarcinogens. Therefore, a numerical comparison of cancer risk levels similar to benzene is not feasible. Nevertheless, a simple examination for the potential cause(s) of the criteria's disparities is still possible. For example, the reliance on different toxicology studies, or the use of distinct parameter values in deriving the water quality criteria could explain the discrepancies between the standards. Different toxicology databases can potentially lead to different conclusions regarding the critical exposure-response relationships in humans.²² More conservative assumptions made during the criteria derivation process can also result in more stringent (more protective) criteria.²³

Unless otherwise noted, most of the water quality criteria in Table 1 have been established for aquatic life protection. The derivation of these chronic criteria typically relies on longer-term tests that measure survival, growth, reproduction, or in some instances, bioconcentration. In every case where a comparison can be made, except for cyanide, the Ocean Plan criterion is more stringent. For example, upon conversion using the procedure developed by the EPA, the Ocean Plan's cadmium criterion became 1.023 µg/L, as opposed to EPA's 9.3 µg/L (See Table 1). The EPA's value remains more than nine times as large. Cadmium is a relatively rare element that is a minor nutrient for plants at low concentrations, but is toxic to aquatic life at concentrations only slightly higher. Studies with the opossum shrimp, *Americamysis bahia*, have shown morphological aberrations, reduced reproduction, and death resulting from increased levels of cadmium in saltwater. These observed deleterious effects took place at concentrations as low as 4 µg/L. Similar results were recorded with another mysid, *Mysidopsis bigelowi*. The saltwater red alga, *Champia parvula*, also experienced significant growth reductions in studies, albeit at higher concentrations. (*2001 Update of Ambient Water Quality Criteria for Cadmium*, USEPA, April 2001) In 2002, the EPA revised its chronic aquatic life criterion to 8.8 µg/L, below the 9.3 µg/L being proposed for this permit.

²¹ The EPA has published an updated compilation of its national recommended water quality criteria for 158 pollutants, developed pursuant to section 304(a) of the CWA.

²² A reference dose (RfD) is an estimate of the daily exposure to human population that is likely to be without an appreciable risk of deleterious effect during a lifetime. RfDs are derived from human epidemiology and/or animal exposure studies. Higher RfDs would result in less stringent criteria.

²³ Examples of the pertinent parameters include dietary exposure and the average consumption of fish and shellfish from marine, estuarine, and fresh waters. Assuming a higher consumption than the national average would lead to a lower water quality criterion. Such an assumption may be more appropriate for California given its proximity to the ocean.

Table 1 also indicates the proposed federal objective for hexavalent chromium to be more than 24 times as large as its Ocean Plan equivalent. Almost all the hexavalent chromium in the environment arises from anthropogenic sources. Hexavalent chromium causes cellular damage via its role as a strong oxidizing agent. It is easily absorbed by gut or body walls (such as shells, gills, and mantle) because of its higher solubility. "At higher concentrations, hexavalent chromium is associated with abnormal enzyme activities, altered blood chemistry, lowered resistance to pathogenic organics, behavioral modifications, disrupted feeding, histopathology, osmoregulatory upset, alterations in population structure and species diversity indices, and inhibition of photosynthesis." (Irwin et al., 1997) Adverse effects of hexavalent chromium to sensitive species have been documented at as low as 5.0 µg/L in saltwater. Measurable accumulations were recorded in oysters and worms at 5.0 µg/L; algal growth was reduced at 10.0 µg/L; and reproduction of polychaete annelid worms was inhibited at 12.5 µg/L. (Eisler, R., 1986) These sublethal effects all occurred at concentrations lower than the 50 µg/L proposed by the EPA.

All of the above evidence and concerns raises a serious question as to whether the proposed discharge of produced water can be found consistent with the water quality and marine resource policies of the Coastal Act. At this time, the Commission does not need to reach a definitive conclusion as to whether the proposed general NPDES permit is consistent with the policies of the Coastal Act. Since the EPA refuses to require the permittees to meet the California Ocean Plan's water quality objectives and numeric effluent limitations at each platform's point of compliance (100-meters from the waste discharge pipe), the Commission cannot find the proposed general NPDES permit consistent with the enforceable policies of the CCMP.

Applying Enforceable Policies of CCMP Outside Coastal Zone Boundary

In the entire history of its exercise of the consistency review authority conferred upon it by section 307(c) of the CZMA, the Commission has compiled a uniformly consistent and unbroken record of applying the enforceable policies of the CCMP directly to the activity that is the subject of its review, i.e., to the activity at the location where it is occurring.

The most obviously pertinent examples of this consistent practice are the Commission's consistency reviews of previous EPA-issued NPDES permits for discharges from oil and gas production platforms in federal waters on the OCS. During the 1990s, the Commission concurred in five consistency certifications for five individual NPDES permits for OCS Platforms Harmony, Heritage, Grace, Irene and Gail (CC-68-92, CC-85-92, CC-65-94, CC-45-94 and CC-68-93, respectively). In all five, the Commission concluded that the proposed discharges would meet the California Ocean Plan's water quality objectives and numeric effluent limitations. The NPDES permit for Platform Harmony, for example, requires Exxon to meet the Ocean Plan's benzene and bis (2-thylexyl) phtlate effluent standards. The NPDES permit for Platform Grace requires the operator (then Chevron, now Venoco) to comply with daily maximum limits for concentrations of toxic materials that equal daily maximum limits contained in the Ocean Plan. With respect to all of the discharges that were the subjects of these reviews, each of the referenced NPDES permits in which the Commission concurred requires California's Ocean Plan standards to be met *at the platform*, or, in other words, at the site where the

discharges are occurring. Further support for this interpretation is the fact that Exxon's EPA-required discharge monitoring reports for Platform Harmony addresses compliance with the federal water quality criteria *and* Ocean Plan numeric effluent limitations at the platform (*i.e.*, 100 meters from the platform's discharge pipe.)

Illustrative examples of this characteristic of the Commission's historic practice in exercising its regulatory authority under the CZMA can also be found in non-NPDES related aspects of the operation of OCS oil and gas production platforms. Specifically, the Commission has on numerous occasions applied enforceable policies of the CCMP related to oil spill prevention and response. In doing so, the Commission has required specific provision of equipment and other prevention and response-related measures with the evident purpose of preventing and effectively responding to *all* substantial discharges of oil, not just those that might have the potential to affect the state's territorial waters. In CC-6-79, CC-3-80, CC-6-80, CC-4-81, CC-31-82, CC-7-83/CC-7-83R and CC-12-83, for example, the platform operators committed to keep and maintain *at the platform* 1,500 feet of open ocean boom, oil skimming devices, and oil storage capacity. The Commission found the placement at the project site of oil spill response equipment necessary for the proposed activities to be consistent with Section 30232, the CCMP's oil spill prevention and response policy.

Finally, there are also numerous examples of the Commission's requirement of compliance with the enforceable policies and standards of the CCMP by non-oil and gas production related activity at the site of its occurrence, rather than at the seaward boundary of the state's territorial waters. In CDP E-01-029/CC-111-01, the Commission reviewed a proposal by Tyco for two 160-mile long (*i.e.*, to the 1,800-meter water depth) offshore fiber optic cables. All but approximately three miles of each cable's length is located beyond the state's territorial waters. Tyco's consistency certification included a commitment to bury the two cables except where precluded by seafloor substrates out to the 1,200-meter water depth. Such burial of cable was for the purpose of eliminating or significantly reducing (1) potential commercial fishing gear entanglements and loss, and (2) whale entanglements. The Commission found that burial of the cable was a necessary in order for the Commission to find the proposed activities consistent with sections 30230, 30231, and 30234.5 of the CCMP. Similarly, for USGS seismic surveys to be conducted in both state and federal waters, the Commission has required (a) trained marine mammal observers and monitors on the survey vessel; (b) a 100-meter "safety zone" for mystecetes and a 50-meter safety zone for pinnipeds and odotocetes; and (c) limiting underwater sound levels to 180 dB or less (CD-47-91, CD-32-99 and CD-16-00). The Commission found these marine mammal protections to be necessary to find the project consistent with the marine resource policies of the CCMP.

The foregoing examples of the Commission's exercise of its regulatory authority under the CZMA clearly establishes the Commission's uniformly consistent practice of requiring compliance with the policies and standards of the CCMP at the site of the activity under review rather than at the seaward boundary of state territorial waters. The question thus becomes whether there is any element of the specific circumstances involved in the Commission's review of EPA's proposed general NPDES permit that would require a departure from this consistent practice. In its analysis on p. 43 of the "Fact Sheet", the EPA, as did WSPA before it, purports

to find such an element in the Ocean Plan's definition of "Ocean Waters" (a discharge to which is regulated by the Ocean Plan), which defines that term to mean "the territorial marine waters of the state...." (Emphasis added.) The definition goes on to provide that:

"If a discharge outside the territorial waters of the state *could affect the quality of waters of the State*, the discharge may be regulated to assure no violation of the Ocean Plan will occur *in ocean waters*." (Emphasis added.)

In its proposed general permit, the EPA relies on this provision of the Ocean Plan as a justification for requiring compliance with the Ocean Plan's water quality standards only at the seaward limit of the territorial waters of the state rather than at the point of discharge. For the following reasons, the EPA's reliance on this provision of the Ocean Plan as justification for that provision of its proposed permit is seriously misplaced.

The reference in the Ocean Plan's definition of "Ocean Waters" to discharges to waters beyond the territorial boundaries of the state is an acknowledgment of jurisdictional limits on the regulatory authority of the State of California *under state law*. The reference is derived from section 13260(a)(2) of the California Water Code, which provides that the obligation *under state law* to file with the state a report of waste discharge shall apply to:

"any person...discharging waste or proposing to discharge waste outside the boundaries of the state in a manner that could affect the quality of the waters of the state...."

Under well-settled principles of law, limitations on the regulatory authority of the state *under state law* do not detract from or in any other way impair regulatory authority that a state may have been granted the right to exercise under a *federal* law such as the CZMA. In the specific context of the CZMA, relevant judicial authority has firmly rejected the notion that principles of state law control in determining whether and to what extent a proposed project is subject to the consistency review requirements of the CZMA. In the case of *Acme Fill Corp. v. S. F. Bay Conservation and Development Commission* (1986) 187 Cal.App.3d 1056, the California Court of Appeal held that a proposed project is subject to the consistency review requirements of the CZMA notwithstanding the fact that it is located outside of the coastal zone of the interested state agency and thus not subject to that state agency's state law permit jurisdiction. Similarly, limitations on the State of California's legal authority to enforce its water quality standards *under state law* with respect to discharges of pollutants occurring outside of the territorial waters of the state do not in any way limit the Commission's authority under a federal law, the CZMA, to require compliance with the policies of the CCMP.

For these reasons, the Commission must object to the proposed general NPDES permit to the extent that it requires compliance with the water quality standards contained in the Ocean Plan at the seaward limit of the state's territorial waters rather than at the point of discharge.

10.1.3 Drill Fluids (“Muds”) and Cuttings

Under the proposed permit platforms will continue to discharge water-based muds and cuttings to ocean waters as a routine part of drilling operations. Drill muds are a complex mixture of clays, barite and specialty additives used to remove cuttings from the drill hole, and to maintain hydrostatic pressure within the hole and equilibrium between the hole and formation. Cuttings are drilled formation solids that are carried by the drilling fluids from the hole to the surface.

The rates at which muds and cuttings are discharged are highly variable, and depend on the stage of drilling operations and well depth. A common practice of drilling operators is to dump large volumes of muds and cuttings when changing drilling formations (*i.e.*, when muds are changed to accommodate varying geologic conditions in the well hole). Mud and cuttings are released several times during drilling operations on a single well with the final mud dump frequently the largest discharge.

Drill muds, including *water-based* drill muds, may contain a number of trace metals (*e.g.*, lead, zinc, mercury, arsenic, cadmium, and chromium may be present) and petroleum hydrocarbons at concentrations that are higher than corresponding levels found in marine sediments at platform sites. Site-specific effects of muds and cuttings discharges include burial of benthos immediately below or adjacent to the platform, bioaccumulation of contaminants found in drilling fluids, and changes in benthic species composition resulting from accumulation of contaminants in sediments. These effects have the potential to impair the food web found in the platform vicinity, thereby detrimentally affecting coastal resources. Burial of hard bottom habitat areas is of particular concern due to the limited number of these areas and their importance to regional productivity. Marine organisms in the water column near drilling operations are also subject to large fluctuations or changes in water column chemistry because muds and cuttings discharges occur sporadically.

The proposed permit includes a number of measures to limit the effects of the discharge of muds and cuttings on the marine environment. They include:

1. The first effort to limit the discharge volume of drilling muds and cuttings. The proposed permit allows for the total annual discharge from existing platforms of 2,189,100 barrels (bbl) of drilling fluids, 666,150 bbl of cuttings, and 62,500 bbl of excess cement. Previously, the general and individual permits only limited certain constituents within the compounds.
2. A prohibition on the discharge of free oil from drill mud and drill cuttings, based on EPA’s BCT (“Best Control Technology”) effluent guidelines. The discharge of *oil-based* mud is prohibited since oil-based fluids would violate the BCT effluent limitations on no discharge of free oil. If a discharger elects to use an oil-based mud, it must transport the mud to shore for onshore disposal. The permit also does not authorize the use of *synthetic-based* drilling mud. If a discharger wishes to use a synthetic-based drilling fluid, it must either request a modification to the permit or request an individual NPDES permit.

3. Prohibition on the discharge of drill mud and cuttings that have been contaminated by diesel oil²⁴.
4. Limitations on concentrations of mercury (1 mg/kg mercury) and cadmium (3 mg/kg cadmium), which are found in barite, a major constituent of drilling fluid (including water-based drilling fluids).

In addition, the proposed permit requires each discharger to assess alternatives (e.g., reinjection, barging) to ocean discharging. When the EPA, in 1993, developed new effluent limitation guidelines, it considered barging fluids and cuttings to shore. The EPA concluded that based on non-water quality factors (such as air emissions, energy use and solid waste management), the least environmentally damaging alternative is to continue ocean discharging. In the “Fact Sheet” for the proposed permit (Page 34), the EPA concludes, “that the emissions from barges is still a valid argument supporting the authorization for drilling fluid discharges in the general permit.” The EPA acknowledges, however, that with the advent of lower emission vessels, it should consider this alternative further. It has thus included in the proposed permit a requirement that each discharger submit to the EPA within two years of the effective date of the permit a platform-specific report that examines alternatives to ocean discharging (e.g. barging and onshore disposal, increased recycling and re-use, and re-injection). The report would also re-evaluate emission levels from vessels in use at the time of the report. If the EPA finds that an alternative method of disposal is feasible, the EPA will within one year modify the general permit.²⁵ In the meantime, each permittee may discharge under the terms of the proposed permit.

The Commission, in its findings objecting to the EPA prior proposed general NPDES permit, expressed concern that scientific research on the effects of drilling fluids on marine resources was inconclusive, and that the mass of, and toxic materials concentrations in, muds and cuttings may damage the biological productivity of coastal waters. (CC-38-85/CC-39-85, February 1986). The EPA has since filed an Ocean Discharge Criteria Evaluation (“ODCE”) for proposed General NPDES Permit CA 2800000 addressing this and other topics, though the findings on this topic remain inconclusive.²⁶ The EPA believes that while localized effects at the platform may occur due to the proposed discharge of drill fluids and cuttings, unreasonable degradation to the marine environment will not result.

²⁴ Diesel oil, which is sometimes added to a water-based mud system, is a complex mixture of petroleum hydrocarbons known to be highly toxic to marine organisms and to contain numerous toxic and nonconventional pollutants.

²⁵ The Commission would review any modification to the permit. The “Fact Sheet” acknowledges that a failure on part of the EPA to amend or modify the permit to require an alternative disposal method that is determined to be feasible will constitute grounds for the Commission to re-open its consistency review of the general permit pursuant to 15 CFR § 930.65.

²⁶ *Ocean Discharge Criteria Evaluation South and Central California for NPDES Permit No. CAG280000*. Prepared by Science Applications International Corporation, September 29, 2000.

In establishing the 1993 *Effluent Guidelines* (upon which the proposed permit's discharge limitations are based), the EPA conducted an extensive, updated review of the available literature and analyzed 23 field impact studies on localized environmental impacts of drill fluids and cuttings discharges near oil and gas drill sites and platforms in waters of the Gulf of Mexico, Southern California, and Alaska. (EPA, "*Regulatory Impact Analysis of Final Effluent Limitations Guidelines and Standards for the Offshore Oil and Gas Industry*, " January 1993; hereinafter "RIA ".) The majority of the case studies originated in the Gulf of Mexico with one study from offshore California: the five-year California OCS Phase H Monitoring Program ("CAMP"), a multidisciplinary study to monitor potential environmental changes resulting from OCS oil and gas development in the Santa Maria Basin. The results of the CAMP are referenced in the EPA's ODCE for the proposed new general permit.

The EPA's analysis suggests the following:

1. Discharges of muds and cuttings are capable of producing localized physical, chemical, and biological impacts:
 - Discharged fluids and cuttings contaminate sediments with heavy metals and hydrocarbons. The studies document increases in sediment barium levels of two- to 100-fold at drill sites, with typical increases of 10- to 40-fold. Increases in other trace metals (*e.g.*, arsenic, cadmium, chromium, copper, silver, lead, and zinc) were also observed within 250-500 meters of the drill site and not more than five- to ten-fold above background levels.
 - Biological impacts from single wells occur on a scale from several hundred to several thousand meters, chemical impacts were noted from several to tens of kilometers (kms). Alterations to benthic community structure are virtually always observed within 300 meters of the discharge site. However, changes have been noted in some cases at 500 to 1,000 meters from the site.
 - Other biological effects include declined abundance in benthic species and bioaccumulation of heavy metals. Changes in abundance, richness (number of species), and diversity of fauna were noted. Taxa affected include annelids, mollusks, echinoderms, and crustaceans.
2. Observations on the long-term, regional-scale fate of drilling fluid solids indicate that a fraction of the materials may be widely dispersed. For example, drilling fluid fine solids can be transported over relatively long distances (35-65 kms) to a regional area of deposition, albeit at low conditions, based on a study of eight exploratory wells. In shallow water (13-34 meters, or 43-112 feet) only about 6% of discharged barite was accounted for within a 3-km radius of three drill sites (in general, shallower offshore waters are more energetic than deeper water).
3. The studies do not document that larger-scale (several hundred to 1,000 meters) impacts occur. However, the studies may not be sufficient to conclude that regional-scale impacts do not occur.

4. Modeling of drilling fluid plume dispersion and field studies of discharge plumes indicate that, in general, plume dispersion is sufficient to minimize water quality impacts and water column toxicity concerns in energetic, open waters of the OCS.
5. The principal impact of muds and cuttings discharges is benthic effects, due to the very high solids content of drilling fluids (10% to 70% solids by weight). Benthic community changes have been hypothesized to be due largely to physical effects. However, no studies have quantitatively discriminated between impacts from physical effects (altered sediment texture) and chemical effects (sediment-associated toxics).

According to the editors, the CAMP study of the potential environmental changes resulting from oil and gas development in the Santa Maria Basin offshore California is "an outstanding example of the difficulties inherent to marine impact assessment." The editors concluded that the study presented:

A realistic and sobering picture of the limitations of field monitoring in the marine environment. This study was well designed, well funded, and well implemented within the control of its managers. It was one of the most rigorously, if not the most rigorously conducted studies of the marine impacts of oil and gas discharges. All of these strengths notwithstanding, however, it does not inspire great confidence in our ability to document adverse environmental impacts.... (Steinhauer et al; from Avanti 1993, pp. 4-38, 4-41.)

Based on the findings of the above-described reports, the Commission believes that although the magnitude of impacts is not well understood, the scientific data clearly suggests that the discharge of drilling fluids and cuttings cause adverse localized biological impacts. The National Marine Fisheries Service ("NMFS") came to a similar conclusion about the discharges' potential affects on "Essential Fish Habitat" ("EFH"). After reviewing the proposed general permit, NMFS concluded that more information on the direct lethal, sublethal and bio-accumulative effects of platform discharges on federally managed fish species is needed, particularly within a platform's 100-meter mixing zone (Exhibit 9). NMFS provided the EPA with a series of recommendations, which the EPA has adopted, into the body of the proposed NPDES permit. The recommendations are to (a) evaluate the direct lethal, sublethal, and bioaccumulative effects of produced water on federally managed fish species; (b) model dilution and dispersion plumes from the point of production water discharge to determine the extent of the area in which federally managed fish species may be adversely affected, and; (c) propose mitigation measures warranted by the results of recommendations "a" or "b". In addition, EPA has committed to a permit re-opener provision, and possible further effluent limitations based on the findings of "a" or "b" above.

All of the above evidence and concerns raises a serious question as to whether the proposed discharge of drilling fluids and cuttings can be found consistent with the water quality and marine resource policies of the Coastal Act at this time. Nevertheless, the Commission does not need to reach a definitive conclusion as to whether the proposed general NPDES permit is consistent with the policies of the Coastal Act. Since the EPA refuses to require the permittees to meet the California Ocean Plan's water quality objectives and numeric effluent limitations at

the point of discharge (100 meters from each platform's discharge pipe), the Commission cannot at this time find the proposed general NPDES permit consistent with the enforceable policies of the CCMP.

10.2 Fill of Coastal Waters

Coastal Act Section 30108.2 defines "fill" as "earth or any other substance or material, including pilings placed for purposes of erecting structures thereon, placed in a submerged area." Under the proposed permit, platform operators will continue to discharge drill cuttings to ocean waters as a routine part of drilling operations. The cuttings constitute "fill" as that term is defined in Coastal Act Section 30108.2.

Coastal Act § 30233(a) states in part:

The diking, filling, or dredging of open coastal waters, wetlands, estuaries, and lakes shall be permitted in accordance with other applicable provisions of this division where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects, and shall be limited to the following:

- (1) New or expanded port, energy, and coastal-dependent industrial facilities, including commercial fishing facilities.*
- (2) Maintaining existing, or restoring previously dredged depths on existing navigational channels, turning basins, vessel berthing and mooring areas, and boat launching ramps.*
- (3) In wetland areas only, entrance channels for new or expanded boating facilities; and in a degraded wetland, identified by the Department of Fish and Game pursuant to subdivision (b) of Section 30411, for boating facilities if, in conjunction with such boating facilities, a substantial portion of the degraded wetland is restored and maintained as a biologically productive wetland. The size of the wetland area used for boating facilities, including berthing space, turning basins, necessary navigation channels, and any necessary support service facilities, shall not exceed 25 percent of the degraded wetland.*
- (4) In open coastal waters, other than wetlands, including streams, estuaries, and lakes, new or expanded boating facilities and the placement of structural pilings for public recreational piers that provide public access and recreational opportunities.*
- (5) Incidental public service purposes, including but not limited to, burying cables and pipes or inspection of piers and maintenance of existing intake and outfall lines.*
- (6) Mineral extraction, including sand for restoring beaches, except in environmentally sensitive areas.*
- (7) Restoration purposes.*

(8) *Nature study, aquaculture, or similar resource dependent activities.*

Coastal Act Section 30233(a) restricts the Coastal Commission from authorizing a project that includes open coastal water fill unless it meets three tests. The first test requires the proposed activity to fit into one of eight categories of uses enumerated in Coastal Act Section 30233(a)(1)-(8). The second test requires that there be no feasible less environmentally damaging alternative. The third and last test mandates that feasible mitigation measures be provided to minimize the project's adverse environmental effects.

Allowable Use Test

The proposed NPDES permit extends to the operators of OCS oil and gas platform authority to discharge oil and gas exploration, development and production wastes. As such, the discharge activity will take place from an energy facility and therefore is an allowable use under Coastal Act Section 30233(a)(1).

Feasible Less Environmentally Damaging Alternative

The Commission must further find that there is no feasible less environmentally damaging alternative to the proposed discharge into ocean waters of cuttings. In its consideration of the proposed reissuance of the general NPDES permit, the EPA evaluated two potential alternatives: (a) barging muds and cuttings to shore, and (b) the reinjection of muds and cuttings.

Barging

In promulgating its *1993 Effluent Guidelines*, the EPA considered barging and onshore disposal of all muds and cuttings as a substitute for ocean discharge. However, the EPA did not adopt requirements to barge uncontaminated (non-oiled) muds and cuttings from platforms located more than 3 nautical miles ("nm") from shore due to (1) the adverse impacts associated with the long distances (offshore and onshore) required for transport, and (2) the lack of permitted land disposal facilities suitable for disposal. The EPA currently requires barging-to-shore of all contaminated muds and cuttings.

In past actions, the Commission has found that while barging may be feasible for a project, it entails significant tradeoffs with other adverse environmental effects such as increased nitrogen oxide ("NOx") emissions, increased risk of spills during transit, and a lack of land disposal sites with the capacity to store the volumes of muds and cuttings generated at both state and OCS platforms. (*CC-47-87 February 1987; information from State Lands Commission (SLC), State Water Resources Control Board (SWRCB), Regional Water Quality Control Board (RWQCBs), State Waste Management Board, Minerals Management Service (MMS), Santa Barbara County and Texaco.*) For instance, barges required for this alternative would emit vast quantities of NOx and sulfuric oxide ("Sox") in the course of their operation. Land disposal sites are limited, and do not provide an environmentally preferable solution to the disposal question. Based on current knowledge, the Commission believes that the environmental tradeoffs associated with barging

non-oiled muds and cuttings from the 22 platforms located on the OCS is more environmentally damaging than the impacts of onsite discharging.

However, further and more current quantification of the environmental trade-offs associated with alternative disposal locations is wanting. Therefore, the EPA is requiring from applicants an updated evaluation of drilling mud disposal alternatives within two years of the effective date of the permit. The EPA may include in the subsequently issued permit additional effluent limitations or other conditions based on the results of the evaluation. The Commission would then reconsider disposal alternatives in light of the new report, technological improvements, and other factors at any future consistency review of the NPDES permit.

Re-injection

Re-injection of drill muds and cuttings is a potential alternative to on-site discharging, although it is not widely practiced. One past study (*Continental Shelf Associates*, 1985) of alternate disposal methods concluded that re-injection of muds and cuttings is not a practical alternative for southern California offshore operations, as the substances would plug the geologic formations and reduce the amount of hydrocarbons that could be retrieved.

On the other hand, re-injection into non-producing wells is possible when geological formations are conducive. At Platform Heritage, for example, Exxon conducts an operation whereby drilling cuttings are ground to a sufficiently small size, pushed down the annulus of the well, and thereby disposed of. Given the aforementioned preconditions for re-injection, feasibility must be conducted on a case-by-case basis.

In order to conduct site-by-site feasibility studies, the proposed NPDES permit requires operators to conduct a feasibility study of "Drilling Waste Disposal Alternatives", including the recycling and reuse of muds and cuttings, and the reinjection of either as an alternative to direct discharge. Given information available at this time, the Commission finds that reinjecting cuttings is not currently feasible. Partial or complete reinjection at these platforms might very well become a condition for consistency of future proposed NPDES permits.

The Commission thus finds that the proposed direct discharge of cuttings is the least environmentally damaging alternative at this time.

Mitigation Measures

Finally, the Commission may permit placement of fill in open coastal waters if feasible mitigation measures have been provided to minimize any adverse environmental effects. At this time, the Commission cannot find that all feasible measures will be provided to minimize adverse environmental effects because the EPA refuses to require a discharger to meet the more stringent of either California's Ocean Plan numeric effluent limitations or the federal criteria at each platform's point of compliance, whichever is more protective of beneficial uses. The EPA proposes that each discharger meet the federal discharge criteria only, although for the majority of pollutants found in drilling fluids, cuttings, and produced water, the federal discharge

limitations are less stringent than those in the Ocean Plan. Therefore, the proposed project does not satisfy the third test of Coastal Act Section 30233(a).

APPENDIX A

SUBSTANTIVE FILE DOCUMENTS

Biological Assessment For Endangered Species in Outer Continental Shelf Waters of South and Central California for Consultation with the United States Fish and Wildlife Service. Prepared by Science Applications International Corporation for the EPA. February 10, 2000.

Biological Assessment for Endangered Species in Outer Continental Shelf Waters of South and Central California For Consultation With The National Marine Fisheries Service. Prepared by Science Applications International Corporation for the EPA. February 10, 2000.

Consistency Certification Nos. CC-85-92, CC-68-92, CC-68-93, CC-45-94, and CC-65-94, (EPA – CCC concurred in EPA’s consistency certification for five individual platforms).

Consistency Certification No. CC-26-83 (Environmental Protection Agency - CCC concurrence in the EPA’s consistency certification that re-issuance of the General NPDES Permit through 6/84 was consistent with the CCMP [EPA originally issued the General Permit in 2/82 with an expiration date of 1/84]).

Consistency Certification No. CC-38-85, CC-39-85 (EPA – In 2/86, CCC objected to EPA consistency certifications for two new proposed NPDES General Permits. [The EPA has extended the existing NPDES General Permit administratively since 1984]).

County of Santa Barbara, Planning and Development, Energy Division, Comments on Draft General NPDES Permit for Pacific OCS Oil and Gas Operations. September 5, 2000.

Eisler, R. January 1986. Chromium Hazards to Fish, Wildlife, and Invertebrates: A Synoptic Review. U.S. Fish and Wildlife Service, Patuxent Wildlife Research Center, Laurel, Maryland.

Environmental Contaminants Encyclopedia. National Park Service, Water Resources Division, Fort Collins, Colorado.

Environmental Defense Center Comments on the draft General NPDES Permit. September 5, 2000.

Higashi, R.M. et al. An Approach to Toxicant Isolation From a Produced Water Source in the Santa Barbara Channel. Produced Water, J.P. Ray, ed. pp. 223-233. 1992.

Irwin, R.J., M. VanMouwerik, L. Stevens, M.D. Seese, and W. Basham. July 1997.

Krause, P.R. Effects of Produced Water on Early Life Stages of a Sea Urchin: Stage-Specific Responses and Delayed Expression. Produced Water, J.P. Ray ed. pp. 431-444. 1992.

Long, Edward R. et al. Incidence of Adverse Biological Effects Within Ranges of Chemical Concentrations in Marine and Estuarine Sediments. *Environmental Management* Vol. 19, No. 1, pp. 81-97. 1995.

Mineral Management Service Comments on the draft General NPDES Permit. September 13, 2000.

National Marine Fisheries Service Recommendations to EPA regarding Essential Fish Habitat protection in the issuance of a new General Permit. October 20, 2000.

Neff, J.M., et al. Composition, Fate, and Effects of Produced Water Discharges to Nearshore Marine Waters. *Produced Water*, J.P. Ray ed. pp. 371-387. 1992.

NOAA Screening Quick Reference Table for Inorganics in Water (SQRTs) HAZMAT Report 99-1. September, 1999.

Notice of Availability of Proposed National Pollutant Discharge Elimination System ("NPDES") General Permit for Offshore Oil and Gas Exploration, Development and Production Operations off Southern California; Notice, *Federal Register*, July 20, 2000 (Volume 65, Number 140), pp. 45063-45066.

Ocean Discharge Criteria Evaluation South and Central California for NPDES Permit No. CAG280000. Prepared by Science Applications International Corporation for the EPA. January 3, 2000.

Osenberg, C.W. et al. Spatial Scale of Ecological Effects Associated with an Open Coast Discharge of Produced Water. *Produced Water*, J.P. Ray ed. pp. 387-402. 1992.

Ray, James P.. 1992. Produced Water: Technological/Environmental Issues and Solutions, Plenum Press, New York.

Raimondi, P.T. and R.J. Schmitt. Effects of Produced Water on Settlement of Larvae: Field Tests Using Red Abalone. *Produced Water*, J.P. Ray ed. pp. 415-430. 1992.

U.S. EPA. March 1991. Technical Support Document For Water Quality-based Toxics Control. Office of Water, Washington, DC.

U.S. EPA. April 2001. 2001 Update of Ambient Water Quality Criteria for Cadmium. Office of Water, Washington, DC.

U.S. EPA. November 2002. National Recommended Water Quality Criteria: 2002. Office of Water, Washington, DC.

U.S. EPA. December 8, 2003. Fact Sheet for Proposed National Pollutant Discharge Elimination System ("NPDES") General Permit for Offshore Oil and Gas Exploration, Development and Production Operations off Southern California.

University of California Extension. 1998. Managing Petroleum-Impacted Sites.

**Table 1 -- Relative Stringency of Water Quality Criteria
(micrograms/liter)**

The standards have been established for aquatic life protection unless noted otherwise

Constituent	1983 Standards	EPA Proposed Standards (4-day averages) ¹	COP Standards (6-month medians)	Converted COP (4-day averages)	EPA/Converted COP	Relative Stringency
Ammonia	na	1,300	600	617.7378085	2.104452702	COP
Arsenic	32	36	8	8.236504113	4.370786381	COP
Cadmium	12	9.3	1	1.023385636	9.08748342	COP
Copper	20	3.1	3	2.563611905	1.209231395	COP
Cyanide	20	1	1	1.029563014	0.971285862	EPA
Lead	32	8.1	2	1.958228853	4.136390896	COP
Manganese	na	100**	na	na	na	EPA****
Mercury	0.56	0.051	0.04	0.035005142	1.456928794	COP
Nickel	80	8.2	5	5.09633692	1.608998802	COP
Selenium	na	71	15	15.41255832	4.606633015	COP
Silver	1.8	1.9	0.7	0.612589993	3.101585107	COP
Zinc	80	81	20	19.47933223	4.158253428	COP
Benzene	na	71**	5.9***	na	na	COP
Benzo (a) Anthracene	na	0.049**	na	na	na	EPA****
Benzo (a) Pyrene	na	0.049**	na	na	na	EPA****
Chrysene	na	0.049**	na	na	na	EPA****
Benzo (k) Flouranthene	na	0.049**	na	na	na	EPA****
Benzo (b) Flouranthene	na	0.049**	na	na	na	EPA****
Dibenzo (a,h) Anthracene	na	0.049**	na	na	na	EPA****
Hexavalent Chromium	8	50	2	2.044712146	24.4533198	COP
Phenolic Compounds	120	4,600,000**	30	30.88689042	na	EPA*
Toluene	na	200,000**	85,000***	na	na	COP
Ethylbenzene	na	29,000**	4,100***	na	na	COP
Naphthalene	na	na	na	na	na	na
2,4-Dimethylphenol	na	2,300**	na	na	na	EPA****
Undissociated Sulfides	na	2	na	na	na	EPA****
Whole Effluent Toxicity	na	1TUc	na	na	na	EPA****

* The EPA standard for phenol is a human health-based lifetime average, while that from the COP is based on the protection of aquatic life, and therefore, no direct comparison can be made.

** Human health-based lifetime average

*** Human health-based 30-day average

**** No COP equivalent proposed

¹ Applicable at the edge of the 100-meter mixing zone.